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For: Cable Connector Incorporating Anisotropically Conductive Elastomer

CLAIMS

- 1 1. A separable electrical connector for separably, electrically interconnecting the
2 conductors of one multi-conductor cable to the conductors of a second multi-conductor cable,
3 comprising:
4 a layer of anisotropic conductive elastomer (ACE) in electrical contact with the
5 conductors of both of the cables; and
6 means for compressing the ACE, to provide electrical signal paths between the
7 conductors of the cables through the ACE.
- 1 2. The electrical connector of claim 1 in which at least one cable is a ribbon cable.
- 1 3. The electrical connector of claim 2, further comprising a paddle board directly
2 connected to the conductors of the ribbon cable, with the ACE layer against the paddle board.
- 1 4. The electrical connector of claim 3 in which both cables are ribbon cables.
- 1 5. The electrical connector of claim 4, further comprising a paddle board directly
2 connected to the conductors of each of the ribbon cables, with the ACE layer against both paddle
3 boards.
- 1 6. The electrical connector of claim 1 in which at least one cable is a flex cable.
- 1 7. The electrical connector of claim 7 in which both cables are flex cables.
- 1 8. The electrical connector of claim 7 in which the conductors of both flex cables are
2 on the surfaces of the cables, and terminate in pads that face one another in the connector, the
3 ACE lying directly against the pads of both cables.
- 1 9. The electrical connector of claim 1 in which both cables are multi-axial cables
2 each comprising at least two spaced coaxial conductors.

- 1 10. The electrical connector of claim 9 in which the ACE lies directly against the
2 conductors of both cables.
- 1 11. The electrical connector of claim 9 further comprising printed circuit boards
2 directly connected to the conductors of each of the cables, with the ACE layer against both
3 boards.
- 1 12. The electrical connector of claim 10 in which the means for compressing the ACE
2 comprises mounting sleeves coupled to both cables.
- 1 13. The electrical connector of claim 12 in which the means for compressing further
2 comprises a clamp assembly coupled to the mounting sleeves.
- 1 14. The electrical connector of claim 12 in which the mounting sleeves are made by
2 potting the ends of the cables in a settable medium.
- 1 15. A separable electrical connector for separably, electrically interconnecting the
2 conductors of a ribbon cable to the conductors of a second electrical device, comprising:
3 a layer of anisotropic conductive elastomer (ACE) in electrical contact with the
4 conductors of both the cable and the second electrical device; and
5 means for compressing the ACE, to provide electrical signal paths between the
6 conductors of the cable and the conductors of the second electrical device through the ACE.
- 1 16. The electrical connector of claim 15 in which the second electrical device is a
2 printed circuit board (PCB).
- 1 17. The electrical connector of claim 16 in which the second electrical device is a
2 second ribbon cable.
- 1 18. A separable electrical connector for separably, electrically interconnecting the
2 conductors of a flex cable to the conductors of a second electrical device, comprising:

3 a layer of anisotropic conductive elastomer (ACE) in electrical contact with the
4 conductors of both the cable and the second electrical device; and
5 means for compressing the ACE, to provide electrical signal paths between the
6 conductors of the cable and the conductors of the second electrical device through the ACE.

1 19. The electrical connector of claim 18 in which the second electrical device is a
2 printed circuit board (PCB).

1 20. The electrical connector of claim 18 in which the second electrical device is a
2 ribbon cable.